Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

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APRIL
1935

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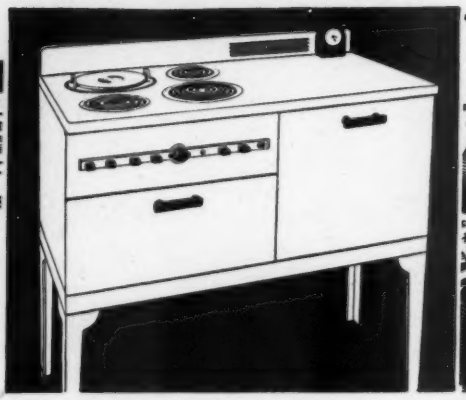

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Heat, swift as electricity, clean as electric light, starts to work performing cooking miracles for you.

The speed, cleanliness and convenience which made electric light a virtual household necessity now bring similar new advantages to cooking

How would you like to have your cooking operations simplified as electricity modernized your lighting?

You can have even greater convenience with a new Hotpoint Electric Range. This enables you to cook with heat that is measured with the accuracy of electricity— double boilers are no longer necessary.

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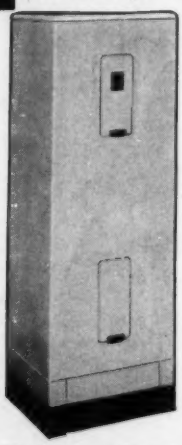

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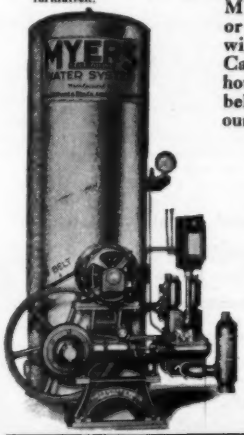

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(W-9)

Buy while prices are LOW

Vol. 8. No. 4
April, 1935

Electricity on the Farm

EDITORIAL

A man prepared has half fought the battle. —DON QUIXOTE

SPRING field work is about to start. Troublesome and costly interruptions can be avoided only if equipment is in the best of shape.

A thorough inspection of all machines is the first essential to putting equipment in first class condition. Such an inspection indicates what repairs are necessary; what replacements must be made.

The making of repairs is usually a very simple matter, and an interesting one, if an electrified work shop is at hand. Electric lights and power driven drills, forges and saws make work in the shop enjoyable, for accomplishment can be expected without fatigue.

Not only in pre-season repair work does the modern farm shop serve; it is even more valuable when a breakdown occurs during the height of field activity. Emergency work under efficient electric light is almost as satisfactory as working in daylight, hence it can be done quickly either during the day or in the evening after field work has ceased.

There are few more profitable investments on the farm than a modern workshop fully electrified.

THE PUBLISHERS.

IN THIS ISSUE

An Every-Hour Necessity—Running Water

BY JOHN C. MYERS

"There is no longer a justifiable reason for not having a satisfactory water supply system of some kind in the home," says Mr. Myers on page 7. It pays excellent dividends in the way of reduced labor and a more contented household. If need be, the Federal Government will help finance the complete installation of a water supply system.

Milk Cooling on the Farm

BY GEORGE W. KABLE

If milk cooling still remains one of your unsolved problems, no matter what your requirements may be, there is a type of electrical refrigerating unit to meet your needs. The author on page 9 describes the advantages and disadvantages of various types of cooling equipment which should be of assistance in helping select the type of equipment which can best serve you.

Calling All Hens!

BY VERA B. MEACHAM

Every farm housewife will welcome a few extra hours away from the cares of the kitchen. With the preparation of meals in the oven of the electric range this bit of extra time is made possible. And, on page 12, the author tells you how to prepare oven cooked meals in the safest of the present-day ranges.

Sturdy Chicks by Electric Brooding

BY J. C. SCOTT

It is the general concensus of opinion among Washington poultrymen that the electric brooder is less expensive to operate than brooders supplied with other sources of heat. And the production of sturdy chicks with but slight loss is also gratifying. The experiences of these men as told by the author will be found on page 15.

Regular Monthly Features

Electrical Housekeeping, page 18; On the Air, page 22; Questions and Answers, page 24; What's New, page 26.

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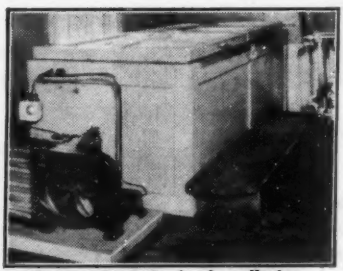
Don't blame GOOD OLD BESS!

OLD BESS, and all the other cows in your herd may be the finest blooded stock in the country, *but* you are not going to get top prices for your milk *unless* you have fast, adequate cooling equipment.

Kelvinator, in a survey that covered all of the big milk-producing sections, gathered facts and figures that absolutely prove this—and several other things of interest to every dairy farmer.

PAYS FOR ITSELF

For instance, Kelvinator electric cooling equipment pays for itself. Look at these figures. One dairy farmer paid 9 cents per hundredweight for cooling. On a nearby farm the costs were only 3½ cents a hundredweight—a difference of $84.86 per month on their volume.



Typical Tank Cooler Installation

On another farm the daily cost of hauling and handling of ice and cleaning up was $4.10. A neighbor, handling about the same volume, spent only $2.50 per day with Kelvinator equipment—a saving of $50.00 a month *on labor cost alone.*

NO OBLIGATION TO YOU

We can tell you of so many other cases where Kelvinator equipment is paying for itself. It will do the same for you—and save you much time, and trouble, and worry, in the bargain. Why not find out? Just see the nearest Kelvinator dealer or write us direct. No obligation. . . . KELVINATOR CORPORATION, *14250 Plymouth Road, Detroit, Michigan. Factories also in London, Ontario, and London, England.*

(1070)

KELVINATOR

ELECTRIC REFRIGERATION • AIR CONDITIONING • AUTOMATIC HEATING

An Every-Hour Necessity—

RUNNING WATER

By JOHN C. MYERS

TO depict anguish and distress, artists have often painted by brush or in words a picture of suffering caused by thirst or drought, thus recognizing the necessity of water to sustain life. They have not dwelt upon the every hour use of it or the comfort and happiness gained by bringing the supply of it from a distant almost inaccessible source to our very finger tips. So much that we enjoy is taken for granted and accepted as a matter of course. So much that we put up with can be changed or bettered by knowledge of improved methods and application of those methods to our needs.

Not only can water be pumped from the well, cistern, river or lake but it can be made to run up hill as well as down and, by putting it under pressure, delivered to any point desired in the house or barn.

With regard to pumps and water systems it should be noted that there is an installation for every need and complete information concerning them can be easily secured by applying to the

Top: Happy are the farm women who have running water to help them in their household tasks.

Bottom: Put the water pails on the retired list and banish the drudgery of carrying water by installing a modern water pressure system.

Even the birds appreciate the benefits of a modern water system. And, the flower garden and lawn will be kept from parching during hot summer months if the supply is furnished by an automatic electric water supply system.

dealer or manufacturer of pumps and water systems or to local electrical utility representatives.

There is no longer a justifiable reason for not having a satisfactory water supply system of some kind in the home, whether it be operated by hand or power. But the interesting thing is that far too many are still carrying water from a distant source of supply or, if not doing that, are lifting it or toting it from one place to another so needlessly and unprofitably.

Modern Water Systems Desired

A recent survey made by one of the government agencies has confirmed what has been commonly known, namely: that a high percentage of rural homes either had no pump or had a water supply system entirely too antiquated or inadequate or both for present day needs. In this survey, the question was asked of the home owner if he were in position to consider the installation of some modern improvement that would better his living conditions what would be given the first consideration. To this question the answer was "a water system" in the greatest number of cases.

This desire and need among rural dwellers had been recognized many years ago by manufacturers of pumps and water systems and the electrical utilities, who have been cooperating in the effort for rural electrification with the purpose of reducing to a minimum the cost of the installation of electricity and water systems used in the rural home so that now both the installation and operating expense is about one-half what it was, and is very cheap for the service and comfort given.

The United States Government has given added stimulus to this effort by its interest in the wishes expressed in its survey and has shown its desire to improve this condition in recognizing the need of better water supply systems in the home by making it possible under The Federal Housing Plan to secure loans to cover not only the cost of the water system and its installation but also the cost of digging or drilling the well.

Early last year there was inaugurated a plan to bring to the attention of rural dwellers the advantages of running water. This plan is being conducted by the Electric Water Systems Council, composed of manufacturers of pumps and water systems and representatives of the electrical utilities and the Committee on the Relation of Electricity to Agriculture, and is endorsed by agricultural colleges, county agents and others.

Living Conditions Improved

Of course, this movement is not entirely altruistic; but it is more sincerely unselfish than it may seem to many. Electricity and running water on the farm make possible better living conditions, comfort and greater profits as has been proven by those enjoying their advantages. It is the feeling of the electrical utilities and the manufacturers of pumps that many who could be benefited by their use have been scared away from installation of them by their cost or do not know

(*Continued on page* 17)

Mechanic installing refrigerating equipment and tank on Seibel farm in Maryland. The tank is set in a concrete pit with one inch of hot asphalt between tank and concrete.

MILK COOLING
ON THE FARM

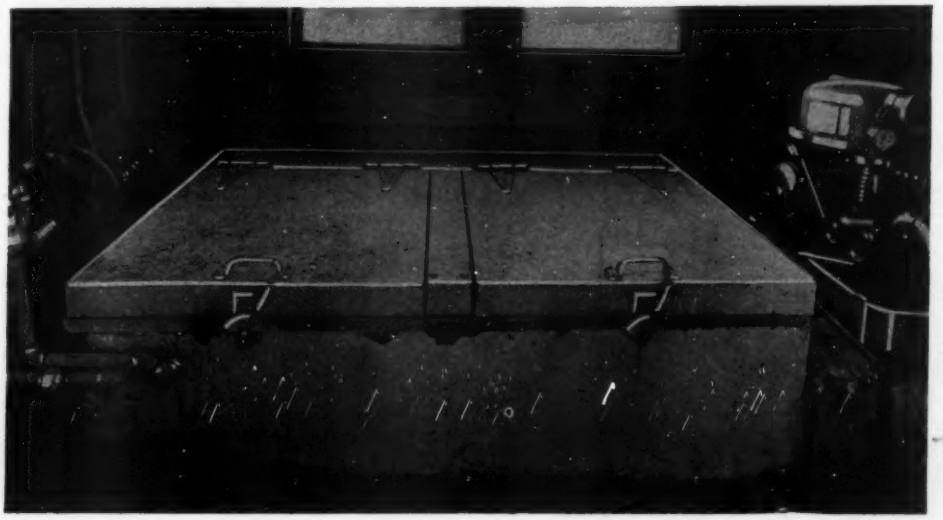
By GEORGE W. KABLE

WITH spring and summer just around the corner this is a pretty good time to be doing some thinking and planning on how to cool the summer's milk supply. A few years ago when the standards for good milk were lower, adequate cooling was not so important a matter. Today the housewife has been educated to demand quality dairy products, and high grade milk brings a premium.

The use of electricity for cooling milk is one of the farm applications of electricity which produces a profit. Milk coolers should therefore be considered as an investment and not merely as an expense.

There are two main advantages to be gained from electric cooling. One is in lowering the temperature of the milk quickly after it is drawn to prevent bacterial growth. The other is in holding

Wet storage tank in Seibel milk house with circulating pump on left and compressor unit on right.



the milk at a low temperature and starting it to market in a condition which will cause it to arrive as a high grade product with a low bacterial count.

Every producer who sells market milk or cream is faced with the problem of getting his supply to market in the best possible condition. To the wholesale seller of milk, retrigeration means insurance against rejected cans due to souring and high counts. It also opens the road to better quality milk and higher prices, or it may mean the difference between being "cut off" or being able to sell when there is a surplus on the market.

One of the first milk cooling plants which I helped install was on a farm producing cream in western Oregon. In order to sell sweet cream without refrigeration, daily deliveries had been necessary and there were some rejects due to souring. With refrigeration the trips to the station were reduced to two or three per week and the premium paid on the sweet cream was 6 cents per pound.

There are a number of different ways of cooling milk on the farm. Perhaps the first one we think of is setting the cans of milk in the open during cold winter weather. Milk allowed to stand in the cold air long enough will freeze, but in spite of that fact, cold air is one of the poorest mediums for cooling milk. Several years ago Professor James D. Brew of Cornell University found that it required 3½ hours to cool ten gallons of drawn milk to 60 degrees by exposing it to atmospheric temperatures of eight below zero. Moving air is a much better cooling medium than still air but both are inferior to water.

Spring water and water from wells may "feel cold" in the summer time, but the sensation is due largely to the contrast with higher air temperatures. Actually most spring and well water will range in temperature from 50 degrees upward, and 50 degree water will not provide quick summer cooling.

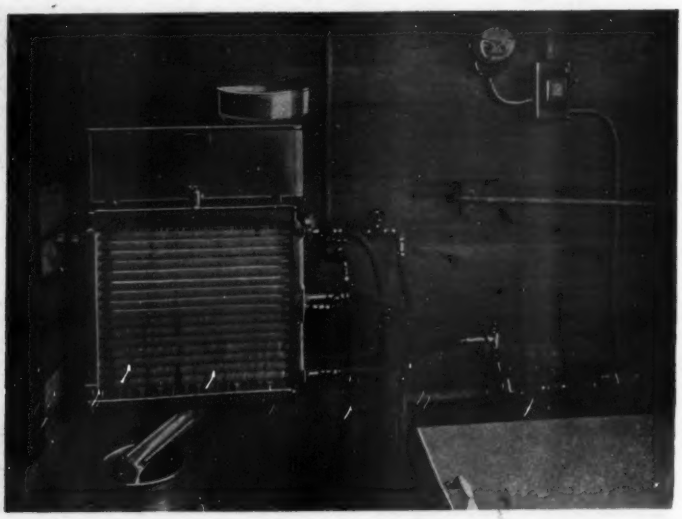
The critical period in the cooling of milk is during the first two hours after it is drawn. Bacteria are present in all milk. The increase in bacteria during the first two hours after milk is drawn is not great. After that period bacteria grow very rapidly at temperatures of 50 degrees and up. Below 50 their growth is held in check, and at 40 to 45 degrees milk will remain sweet and increase very little in bacteria count for many hours.

There are two common methods of cooling milk with electric refrigeration. One is to pour the milk over a surface cooler through which brine or refrigerated water is circulated, and the other is to cool the milk in cans. When milk is sold in bottles, the surface cooler is usually considered an essential part of the cooling equipment.

Can cooling has increased greatly in popularity in the past few years where it is not necessary to bottle the milk immediately for delivery. The Oregon Experiment Station, followed by a number of others, has demonstrated that milk or cream cooled in closed cans has just as good a flavor and odor as milk which has been poured over an aerator. The other factor which has made can cooling popular is the ability to cool the cans quickly in tanks of water at 35 to 40 degrees made possible by electric refrigeration.

In a market milk dairy the usual cooling equipment consists of a surface cooler and a wet or dry storage tank. If a good supply of water is available, the upper part of the surface cooler is connected to the water supply. This will remove about half the animal heat from the milk and will save some cost of cooling, unless the cost of pumping water is very high. Cooled brine, water or refrigerant is circulated through the lower half of the cooler to bring the milk temperature down to about 40 degrees.

"Wet" storage tanks are those in which milk cans are immersed in refrigerated water or brine. They are used where milk is marketed in cans or where it is cooled in cans and bottled later. Wet storage has some advantages and some disadvantages over dry storage. One of the advantages is that cold may be stored in the water throughout the 24 hours of the day. This permits the use of a smaller refrigeration plants than with a dry storage box equipped with direct expansion cooling coils. Where the dry storage box is cooled by storing refrigerated brine, this disadvantage may be partly offset and brine from the tank may



The Selbel Farm cooling unit, showing circulating pump and one-quarter h.p. motor and hose connections. Tap water flows through the upper half of cooler and refrigerated water through the lower half.

The milk house cooling and storage room on the Seibel farm is well lighted for finishing up those after dusk chores. The light is reflected by a shallow dome enameled steel reflector mounted close to the ceiling and controlled by a switch at the door.

also be used for circulation through the lower half of the surface cooler.

Brine is used as a cooling medium because it may be cooled to a lower temperature than water without freezing. The more concentrated the brine, the lower the freezing point. Brine is made from calcium chloride dissolved in water. It was formerly used in most wet storage tanks, but because of the necessity for occasional cleaning of the tanks, and the fact that water will answer the purpose, it is now common practice to use water.

Dry storage cabinets are desirable for dairies selling bottled milk. Milk is first cooled over the surface cooler and then stored in cases in the dry room. Such dry storage cabinets are convenient for storing meat and other food products, and may also "fill the bill" on certain general farms not specializing in bottled milk.

There are now a number of types of wet storage cabinets being offered for sale. The simplest is the rectangular tank insulated on all sides, top and bottom with corkboard or other waterproofed insulating material and containing cooling coils, overflow and drain pipes. The temperature of the water in the tank is regulated by a control valve which starts and stops the compressor motor as the water warms or cools.

Where quick cooling is required some means of agitation of the milk and water is desirable. In still water a film of warm water forms around the cans and the heat transfer from milk to water is impeded. To overcome this, various types of agitators and circulating pumps have been provided. The important thing in their use is to keep the water moving over the surface of the milk can. Such agitation is reported to reduce the cooling period for ten gallon cans by from 20 minutes to an hour. Another type of tank with a rocking bottom is also on the market. It rocks the cans, thus moving both the milk and the water. The desirability of these devices depends upon how quickly one wishes to cool the milk.

Several types of refrigeration machines are used in milk cooling. Electric machines practically all consist of a motor which drives a compressor. Some gas, such as ammonia or sulphur dioxide, called the refrigerant, is changed from a gas to a liquid by applying pressure to it in the compressor and cooling it in a condenser. The liquid refrigerant is then piped to the cooling chamber and changed back to a gas, taking up heat from the water in the process. If water is used for cooling the gas in the condenser the amount of power required for liquifying the gas is reduced about one-third. We therefore have air cooled and water cooled condensers. The water cooled type uses about one-third less power and is usually preferred on the larger machines. With the smaller machines the simpler, lower cost construction of the air cooled units, with elimination of possible freezing in winter, makes their use more popular.

Electric Units Preferred to Handling Ice

Several weeks ago I visited a number of farms in the vicinity of Toronto. It was mid-winter but the temperature had not cooled the enthusiasm of those dairy farmers for their milk cooling equipment. Frank Pollard buttoned up his coat and said he could not affaird to cut ice even in Canada as long as he could use his electric cooler. His logic was this: I can milk two additional cows twice a day in the time it would take me to handle ice for cooling. In addition I would have to empty and clean my cooler every few days—and handling ice is a nasty job. The returns from the two extra cows will more than cover my cost of cooling.

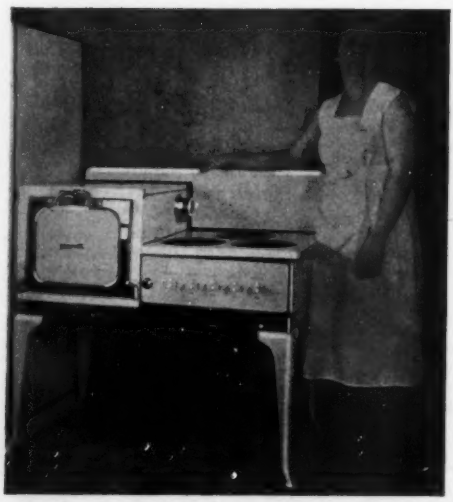
Today's refrigerating equipment is reliable. Market requirements are continually increasing. The time to put in the cooling equipment is before the emergency arises next summer.

This entire meal was cooked in an electric oven.

CALLING ALL HENS!

CALLING ALL HENS!

By VERA B. MEACHAM



Mrs. Henry Esserman of Chesterton, Ind.

THERE is a tale going the rounds about a man in Connecticut who has discovered a new job for his hens. Somebody told him that the temperature of a hen is 102 degrees.

"One hen at 102 degrees plus another hen at 102 degrees ought to give me 204 degress," he figured to himself. "That would certainly keep my engine warm no matter how cold the weather."

So all last winter, the story goes, he went out to the hen house at dusk, caught a couple of hens and stuck them under the hood of his automobile. The hens may have felt a bit crowded, but report has it that the engine turned over at the first touch of the starter each morning,

As though that were not enough tax on our credulity, knowing hens as we do, the reporter who tells the tale ventures this surprise.

"The next thing you know, that man's wife will be using half a dozen hens for a fireless cooker when she goes to church on Sunday morning."

Tut! Tut! That will never do. He must have had his tongue in his cheek all the time. No one familiar with the private life of a hen would try to shift her from her familiar role in the menu for Sunday dinner to that of the fuel to cook it.

Probably the poor man had some vague idea that heat from hens would be quite safe to leave for a couple of hours while the family was away from the house. Perhaps he figured that they

If you want to put your supper in the oven at noon, this timer will turn the current on for you at four, and will turn it off at six thirty, or whenever you like.

couldn't get any hotter so the dinner would not burn. And there was no likelihood that they would cool off either and stop the baking.

But he quite ignored the fact that even the nicest hens are dusty, dirty little wretches, and so flightly and irresponsible that it would never do to depend on them for anything—except eggs.

No, my friend, we repudiate your suggestion so hastily and completely that we may seem ungracious about it. And we wonder, poor bachelor that you must be, if you have never had any opportunity at all to look into the really modern kitchens of today.

But of course you have not. If you had, you would be marvelling not at the possibilities of hens, but at the accomplishments of electricity in furnishing heat for cooking.

How much thought do you suppose Mrs. Henry Esserman of Chesterton, Ind. has to give her Sunday dinner after she has shut it up in the oven of this modern electric range in her kitchen?

Every woman knows that it is quite possible to plan a meal that can be put into the oven before she starts out to church, that will cook safely while she is away from the house, and that would come out, all ready from soup to pudding, piping hot and done to a turn, if there were some one at home to tend the fire.

No one at her house has to watch the fire in Mrs. Esserman's range.

The water wheels or steam turbines where electricity is made are tended by men miles away from her kitchen. She can have heat, any heat she needs any time, just as she gets her light, simply by turning it on.

When a body is hurrying to get meals ready, it is a great convenience to have a fire simply by turning it on instead of kindling and coaxing it into activity with poker, damper, and draft.

It is a comfort to work over a specklessly clean stove with no fuel to handle or drop or scatter on the floor, with nothing to smudge the hands. Since it does not have to be stored in the house, or even handled in building a fire, it makes no muss about the kitchen. It is not consumed in supplying heat so it gives off neither smoke nor soot to the walls around.

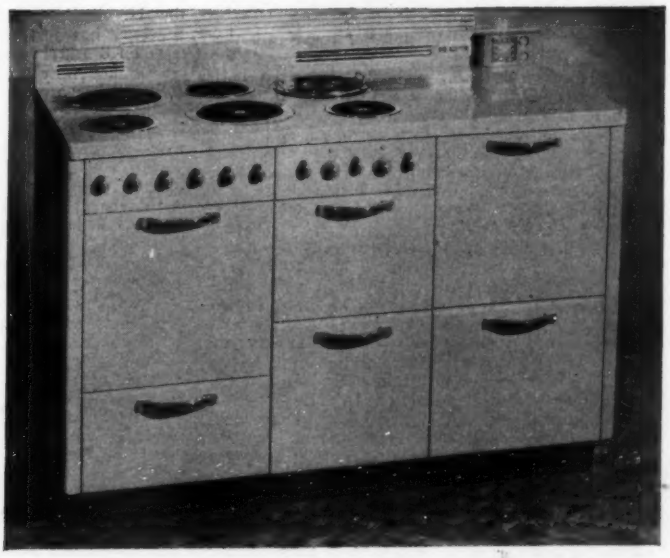
Electricity is a clean fuel for the range.

Modern methods of cooking make strict demands on the heat we use. One of the most exacting is that it shall be, in part of the range at least, measurable and under exact control.

Thermostat Controls Oven Temperature

Electric current can be accurately controlled to give any desired temperature for baking. You have only to set the thermostat for the temperature you want and turn on the oven switch. When the current has been on long enough to bring the temperature of the oven up to the point indicated by the pointer on the dial, click, the thermostat shuts it off. When the temperature falls—on goes

For larger families, larger ranges are provided, such as here illustrated. This unit has five plates and a thrift cooker.



This temperature control "minds the fire" for the oven of an electric range.

the current again. Thus it will go, off and on, off and on, as long as the switch is turned. And the temperature of the oven stays where you want it.

This reliable, automatically controlled heat meets present day demands exactly.

Getting a meal ready and cooking it all at once in the oven simplifies food preparation at any time. When you plan a meal that can be cooked like this, it is necessary, of course, to select foods that take somewhere near the same time to cook, and that require about the same temperature.

Vegetable Soup
Chuck Roast — Spanish Corn
Steamed Apricots

You can prepare the vegetables and put them and the soup bone in a covered dish. The Spanish corn takes 2 cups of corn, 1 green pepper, 1 small onion, 1 cup tomatoes, and seasoning. This should be put in a covered dish. For the steamed apricots cover 2 cups of apricots with 4 cups of water and add 1 stick of cinnamon. Use a covered dish for this, but put the roast into the oven in a shallow open pan.

This meal will cook in about two and a half hours with a temperature of 300 degrees.

There is a great satisfaction in shutting a dinner up in the oven of an electric range. You know the food won't burn, or stick, that the fire won't go out, nor get too hot, but that the temperature of the oven will stay just where you set it as long as you are away.

You can lock the kitchen door behind you, comfortable in the realization that there is no fire burning in the range you have left. The heat is brought to the oven over tested, carefully installed wires; it flows through units designed for safety and inspected for service. To get the heat you are using, you have left no flame that a chance breeze might blow against a curtain or a cloth. You have left no fire that might drop out on the floor through a carelessly latched door.

Meal times never take into account the seasonal jobs that take us out of doors, nor the weekly chores of washing and ironing that take up extra time. This month we may want to stay outdoors looking after the baby chicks or planning the garden. Getting dinner ready, tucking it into the oven, and shutting the kitchen door on all thought of it for two or three hours at a time, is one effective way of saving a little free time for these extra things we want to do.

• • •

Oven Meals

Roast Pork Shoulder — Browned Sweet Potatoes
Buttered Carrots — Spanish Onions
Baked Apples
Old Fashioned Rice Pudding for following day.
350 deg. 2 hours.

Rice Pudding

For pudding mix one cup washed uncooked rice with one-half cup brown sugar, one-half cup raisins, one-half teaspoon salt and four cups milk. Stir thoroughly, adding one teaspoon vanilla. Place in a covered dish.

Rice and Salmon Loaf — Pickled Beets
Buttered Asparagus — Baked Pears
Whipped Cream
350 deg. 1 hour.

Rice and Salmon Loaf

Two cups cooked rice, two cups minced salmon, two eggs, one-half teaspoon salt. Grated rind of lemon. 1 teaspoon finely chopped parsley. Mix all ingredients thoroughly. Butter a bread tin or a ring mold and then dust with fine bread or cracker crumbs. Fill mold with mixture.

Meat Loaf — Prune Salad
Scalloped Potatoes — Green Beans
Apple Crisp
350 deg. 2½ hours.

Apple Crisp

Put sliced apples in a buttered baking dish. Pour over them one-half cup water. Sprinkle with 1 teaspoon cinnamon. Work together the sugar, flour and butter until crumbly. Put this on top of the apples and bake uncovered. Serve hot with whipped cream.

Hose for Watering Truck Crops

Porous canvas hose in truck crop irrigation requires only a small pressure or head of water to operate satisfactorily, says F. E. Staebner, of the U. S. Bureau of Agricultural Engineering. Staebner has just finished running some pressure tests on 8 and 12-ounce ordinary canvas hose and on 8-ounce waterproof canvas hose.

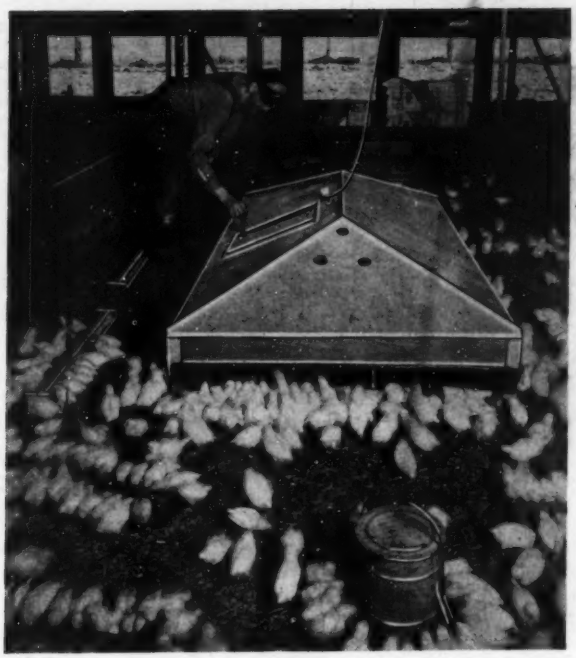
Small streams that are slightly higher than the ground to be irrigated often provide sufficient head for watering small fields. A hose attached to a household water supply tank on the back porch or elsewhere can be used to irrigate a small garden.

In distributing water to the soil near plant roots, the hose system uses a minimum supply and wastes little. It is used in humid regions to protect truck and other crops in critical dry periods. It is especially suitable where the land is only slightly irregular and where the soil is too sandy or too heavy for satisfactory furrow irrigation.

With a head of 3 feet, Staebner found that 5 gallons of water a minute oozed from 100 feet of 8-ounce hose; one-half gallon from 100 feet of 12-ounce; and 1.8 gallons from 100 feet of 8-ounce waterproof hose. He ran tests up to heads of 7 feet, in which 38 gallons oozed from the 8-ounce hose; 3.2 gallons from the 12-ounce; and 16.5 gallons from the 8-ounce waterproof hose.

The 8-ounce ordinary hose costs less than the others tested and wears out sooner, but it is the one in general use for irrigation.

Left: Close-up view of one of the brooders on the Hovila Poultry Farm. Below: Brooder layout on the Hovila Poultry Farm near Winlock, Wash.



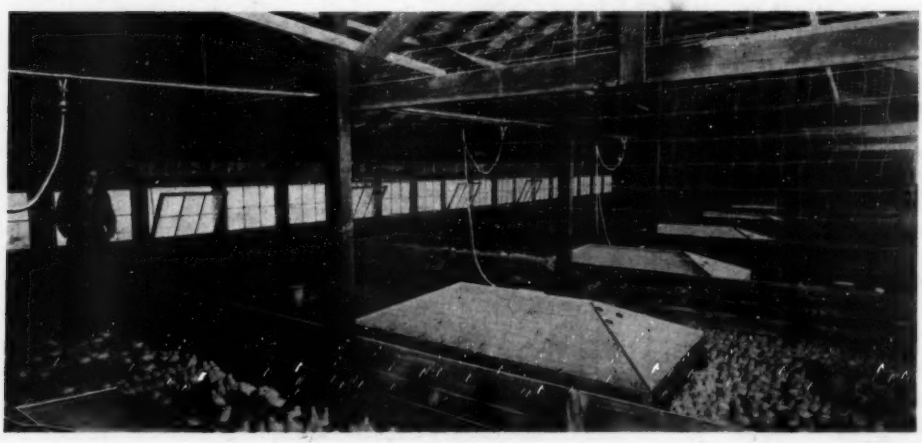
STURDY CHICKS

By ELECTRIC BROODING

By J. C. SCOTT

MR. E. S. PROUTY, poultryman at Winlock, Washington, used only 355 kilowatt hours to brood 1000 chicks. These chicks were brooded during April and the first part of May. The loss during the entire brooding season was 17 chicks, out of 1000, or 1.7%.

Mr. Prouty, in commenting on his brooding



operations in 1933, after many years' experience, said:

"My chicks this year were so well feathered at five weeks old that it was no longer necessary to use the brooder." The brooder which Mr. Prouty refers to is an electric forced air draft brooder.

On Mr. Prouty's place, this same brooder was used earlier in the season, and here is what Mr. Prouty tells us concerning this trial:

"1,040 day-old chicks were placed under the hover on February 18. At the end of six weeks, my total loss was 31 chicks. Twenty of the 31 chicks died, and eleven were killed and culled.

"The total energy consumption for this brood was 354 kilowatt hours."

Now compare Mr. Prouty's records, using the electric brooder, where it cost him less than a cent per chick and a loss of 1.7% and 3% in chicks, with his experience using a coal brooder.

"In 1932," Mr. Prouty says, "I brooded 1400 chicks with a coal brooder, at a cost of $27.00, or nearly 2 cents per chick for coal. My loss of chicks with the coal brooder was 12%."

A few days ago I had the opportunity to visit Mr. T. Hovila on his poultry farm near Winlock. The thing that interested me, of course, was ten 1,000 chick electric brooders in a row, all in operation, with 1,000 or more chickens under each one. In conversation with Mr. Hovila, here is what he told me.

Last year he operated two coal brooders, and one electric brooder, side by side. Cannibalism among the chicks in the coal brooder, Mr. Hovila reports, was not only prevalent among the chicks, but the hens from his flock are still practising cannibalism in the laying house. He told me he had absolutely no cannibalism at any time among the chicks or the pullets or the hens, from the flocks brooded in the electric brooder, where the chicks started life in a warm hover with plenty of fresh warm air in a cool room with plenty of fresh cool air.

Another thing that was very interesting to me was, that Mr. Hovila, early this season, started the electric brooders, and is taking the chicks away from the heat when they are three weeks old. He says: "We used to keep the heat on our chicks for five or six weeks, but we have found by experience that we can develop a better pullet with the electric brooder, in the cool room, taking the heat off entirely when they are three weeks old. Of course this cannot be done when the chicks are brooded in a warmed room.

Mr. Hovila has been in the poultry business for 22 years, and his hatchery business now amounts to from 160,000 to 200,000 baby chicks per year.

Mr. Hovila tells us that there is no necessity for building a brooder house, and this is another way to reduce expenses in brooding. Simply clean the laying house well, disinfect it, and fix it so there is no draft, except on the warm days.

On the particular day I visited Mr. Hovila, March 13, it was warm. In the afternoon some of the windows were open on both sides of the house where the chicks were being brooded—in order to keep the house cool.

One of the best brooding records that has ever come to the attention of the writer was made by Mr. E. W. Rau, Spanaway, Washington.

Mr. Rau put 1046 chicks under a 1000 chick brooder. His loss was 21 chicks at 6 weeks old. The total electric current consumption was 220 kilowatt hours.

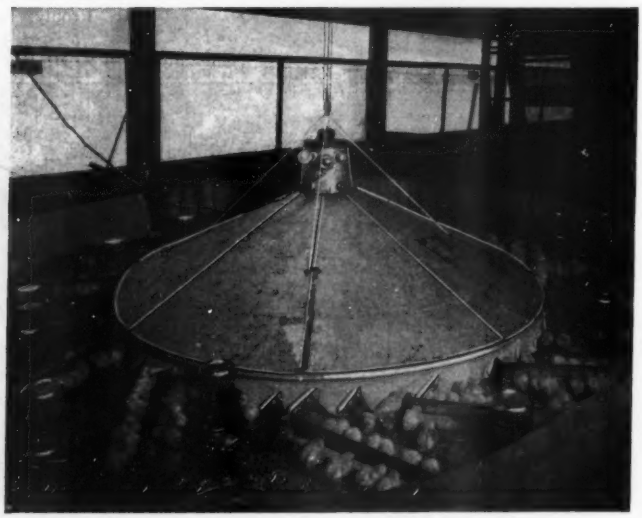
There you are—a current consumption of ¼ kilowatt hour per chick and a mortality of 2%!

And Mr. Rau had no tail picking or toe picking in this flock.

Mr. Martin Brossard, Burlington, probably the first poultryman to brood with a brooder of this character, has had excellent results with it for several years.

On the Dr. C. Quevli farm at Lake View, Washington, 925 chicks were brooded with one of these brooders. Only two chicks were lost, and those were accidents. No record was kept of current consumption.

In this case, as is generally practiced in Washington, the baby chicks were vigorously culled before they were put into the brooder. It does not pay to try to raise weak chicks.

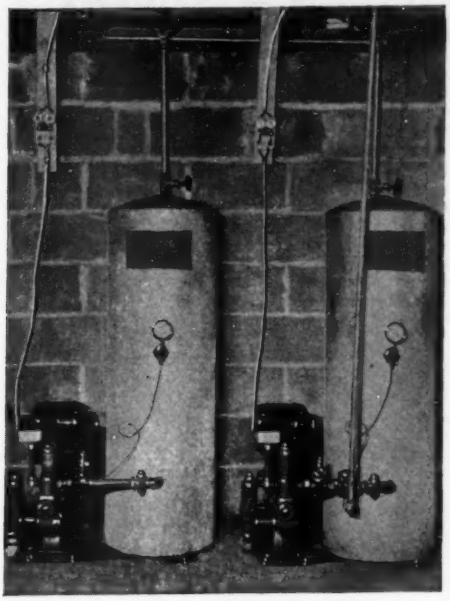


ONE of the brooders which has served a Washington poultryman. This is of the ventilated type. The large electric light is in series with the motor to reduce its speed to get the desired ventilation. The small light is the pilot light for the heaters.

Running Water

(*Continued from page* 8)

the value of them. Therefore, it is the purpose of the members of the Water Systems Council to show *why it is far more costly to do without* these advantages than to have them, and especially so now that they can be installed at such a reasonable expense.



Well water for drinking and cistern water for general use are supplied by this twin installation on a farm near Shelby, Ohio.

Water is an every day necessity for animal and plant life and a proper supply of it, easily and quickly obtainable, will add much more to the comfort and joy of life than any single thing that can be added to the home. Moreover, an abundant supply of water under pressure will produce and increase farm profits by the greater and better production of eggs, milk, fruit, meat, vegetables and the like to the point of more than justifying the expense of a proper water supply system.

Water for Many Purposes Supplied by Modern Water System

A water system furnishing water under pressure will provide water for horses, cattle, chickens, spraying, bathing, cooking, washing, sprinkling, refrigeration, fire protection and many other purposes—all at the turn of the faucet. When you see the expression adopted by the Water Systems Council and reading—"Running Water—Your Family Deserves It," just think what it means and I know there should be no argument about the truth it implies.

Give Your KITCHEN MIXER a Chance

By Lorene K. Beresford

PERHAPS you have been wondering just where you are going to put that new kitchen mixer. Or you may be one who has already decided on a lower shelf of the cupboard or cabinet. Why not give the kitchen mixer a square deal and make it a real willing and ready kitchen helper? If you are like some folks I know, you will reach for your old hand cranked beater nine times out of ten unless your electric mixer is in a convenient location on the table or in a storage space easily accessible at all times.

If your investment is tied up with too long a service cord, or the effort of getting the mixer from the lower shelf is greater than would be required to do the job with a hand-operated beater, there is little chance for your electric mixer to pay dividends on your investment. If you do not like to leave your electric mixer standing conveniently ready to serve you on the kitchen table, or if there isn't room on the kitchen cabinet, a wall or shelf cabinet especially built for the mixer is suggested.

A friend of ours who lives in a small farm home makes use of a wall cabinet for her mixer. This little cupboard is located at the side of her kitchen cabinet. The space is about 18 inches deep and big enough for most modern kitchen mixers with their auxiliary equipment. The mixer unit can be mounted on a sliding shelf fitted with a stop so that it can be pulled out just above the cabinet top. Other shelves at the back and above the mixer will hold the extra bowl and other attachments.

Frequently mixer cords are longer than necessary for the kitchen space in which they are used. If the use of a kitchen mixer is limited to a certain work table and the stove, it is better to measure the cord for each location and shorten it to the most convenient length.

The kitchen mixer that is always ready to serve all mixing needs from the morning hot cakes to the evening desserts is the one that is conveniently at hand.

ELECTRICAL HOUSEKEEPING

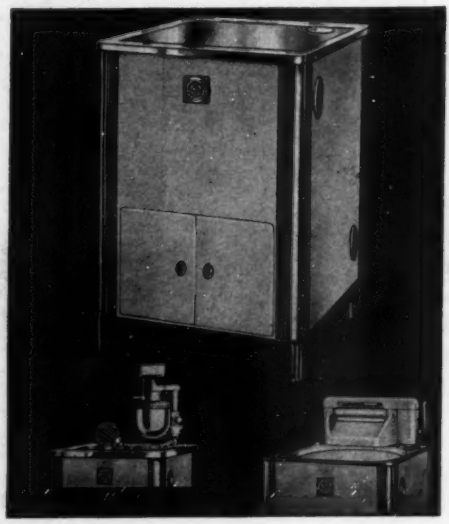
Conducted by
GAIL MEREDITH

The 1935 WASHERS

The motor in this machine is permanently oiled at the factory.

THE new washing machines show more attractive designs, quieter operation, greater safety, and added convenience.

For some time more and more attention has been given to the looks of the washing machine. Evidently designers realize that a good many women would like to keep the washer right in the kitchen where they do the washing. The finish of smooth, easily cleaned enamel, the colors, white, or delicate shades of green, blue and cream make them good looking machines, but it has taken the new styling, the square table top designs to make them look like kitchen furniture.



Many of the new washers are square. Some are built with steel cabinets entirely enclosing the tub and wringer shaft. They have tops of stainless metal that add convenient working space.

Perhaps it is the fact that so many of them are run not in a remote basement laundry, but in the kitchen right next door to whatever is going on in the house that is responsible for the next improvement too.

Certainly the new washing machines are quieter than ever before.

This comes, so the manufacturers tell us, in some cases through a reduction in the number of moving parts in the machine. The motors are mounted on rubber. The tubs are mounted on rubber. The cover is cushioned on a rubber gasket. All of this cuts down noisy vibration. The motors themselves are more silent in operation.

I suppose all manufacturers are striving to make running their washers free from accidents. Long ago they enclosed all of the moving parts they could. Now they are adding to the wringer various quick acting, easily operated safety devices that stop it instantly at the merest touch of your forearm, your elbow, or your little finger. These should, it would seem, prevent any accidents there.

There is every attempt to make the washers more convenient. This shows itself in the location of the controls for one thing. They are set so you need not stoop nor bend to start the motor for the agitator or the wringer. They are within easy reach, often from both sides of the tub. Some machines have foot controls, too.

There are washers with adjustable legs that change the height of the tub for tall women and short ones.

One manufacturer of washers has brought out a motor permanently lubricated at the factory. The oil or grease is sealed in. These machines will never require oiling at any time.

New this year too is a temperature indicator on the front of some machines. This is a dial that gives the correct water temperature for washing all kinds of fabrics. The pointer on the dial reports the temperature of the water in the tub. This should prove a great help in washing woolens particularly, since they require luke warm water as well as careful handling for best results.

Still another device I had not seen on a washer before this year is an instrument that automatically controls the washing time. This control, mounted on the front of the washer or on the case enclosing the wringer post, is graduated in minutes, from 1-15. If you want to wash blankets three minutes, you can set this time control for three minutes, and it will turn the motor off at the end of that time.

But the biggest change of all comes in a design that builds the tub inside a cabinet large enough to provide storage space below. The washer tub is of white enamel, with an agitator of polished

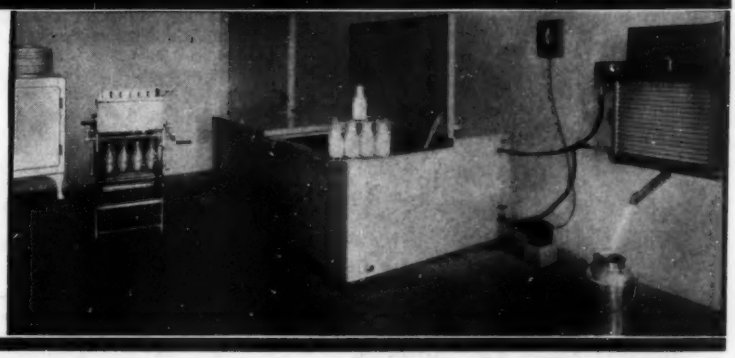
Here is the cabinet washer that serves as a table throughout the week. Insert, left: In every day use. Insert, right, Monday only.

GENERAL ELECTRIC

MILK COOLING EQUIPMENT

helps noted Dairy Farm get a perfect rating from U. S. Inspector

Coker Dairy of Hartsville, So. Car., one of the South's leading dairy farms.



Milk cooling room in the Coker Dairy, equipped with G-E refrigeration, including a General Electric Monitor Top refrigerator.

A FEW DAYS after the installation of General Electric refrigeration equipment, the U. S. Government Inspector visited the Coker Dairy and rated it *100%*—probably the first dairy in the United States to receive this endorsement.

Electrically refrigerated milk cooling equipment of the right variety will help *you* get a top rating and premium prices for milk. And it actually costs less than any other method. The General Electric representative in your section will gladly prove this fact without obligation to you.

General Electric refrigeration is the surest, easiest, quickest and most economical method of cooling milk to a temperature below 50°. The savings it effects will quickly pay for the equipment and will go on paying you *extra* milk profits year after year. G-E gives you the world's lowest cost milk cooling service. Write for complete details. General Electric Co., Commercial Refrigeration Division, Specialty Appliance Sales Department, Section CZ4, Nela Park, Cleveland, Ohio.

* * *

• See the new General Electric household refrigerators and Calrod-equipped automatic electric ranges at the General Electric dealer's. • Sizes, models and prices for every home, every income.

It costs less to own a General Electric

aluminum. The cover of the tub is aluminum, too. The cabinet has a top of monel metal that lifts off easily and may be hooked on the side of the cabinet while the washing is going on.

This cabinet is wired for sound, but not the sound of a washing in progress. It has a radio aerial connection and a convenience outlet to which the radio may be connected. It would be possible to set the radio in the lower part of the cabinet, but I imagine most women would prefer to have the radio on a nearby shelf, and to use the cabinet as a storage space for the wringer when it is not in use.

A portable ironer fits onto the wringer post and is run by the washing machine motor.

Nor is that all.

There is a good sized mixing machine designed to fit right on that same wringer post at one corner of the cabinet and to put that washing machine motor to work full time.

A one day week for washers? Not any longer. The motor and gears that drive a washer and wringer can just as well be put to useful service after they have swished the clothes through the tub and wrung them dry for handling. And this machine definitely urges a seven day week.

But a seven day week for motors means shorter hours for mothers.

Coffee maker for a single cup of coffee.

POT LUCK

MAKING a good cup of coffee is an easy task. Any one can do it. But like a good many other quite simple achievements, its success depends not at all on luck, but on painstaking attention to a number of very little details.

Success begins at the grocer's with the coffee you buy. The blend is a matter of taste, but it must be good. You have to have good coffee in the package before you can have it in the cup. The grinding is important, too. Unless you select a brand that is ground for either drip or percolated coffee, you want to be sure that the coffee is ground for the method you use. After that, you have also to acquire the habit of buying your coffee fresh and guarding its flavor by keeping it tightly shut in a jar or can.

There are many excellent coffee makers on the market. Designers and engineers, or whoever it is that counts the holes in a percolator, measures the size of its basket, and who adds a measuring line to the glass bowl or metal dripper, have been seeing to that. But the best equipment in the world will still make coffee that leaves a bad taste in your mouth unless the inside of the pot, the valves, the stem, the basket, or the dripper are all of them scrupulously clean.

There was a time when I was taught that it marked the doom of good coffee if I washed the coffee pot with soap suds. Now we are taught it is disastrous not to.

Coffee pots should be scoured clean of every trace of discoloration inside the pot. Then they should be rinsed over and over again. And last of all, they should be left open, yes, open until the next time you use them.

Dust? Perhaps. But you can rinse them out before you make your coffee. You can't rinse out that faint odor that clings to the pot if the cover is kept shut.

The next step toward good coffee lies in accurate measurements. The common opinion seems to be that three level tablespoons of coffee to a measuring cup of water produces the best brew. If you like it "strong enough to float an egg," whatever that means, this may not suit you. If you are a partaker of some pale bodiless drink having only a faint aroma of coffee this will seem an extravagant measure. But for most folks who are lovers of good coffee, these measurements will produce a pleasing drink.

Cooks in laboratories say we are apt to percolate our coffee too long. If you use coffee enough, you will not be tempted to try and get it stronger

Keeping the coffee pot hot on a low wattage burner.

by longer percolating. In drip coffee pots the time is controlled by the time it takes the water to drip through the coffee into the pot below.

Some folks, those who like their coffee hot, I take it, have sometimes made the mistake of putting the pot directly over the heat while the coffee is dripping through. When they do that, there is always the possibility that they will boil the coffee. That spells trouble right there. An electric unit big enough to hold the pot and with a wattage so low that it keeps the coffee hot but never hot enough for boiling, has been designed for the use with these coffee makers. You can use one of these units right on the table, and when your pot sets on it, the coffee stays hot to the very last drop.

It Does MORE Than PAY ITS WAY

By Pearl M. Reifsteck

WHEN we installed electricity six years ago we knew it would add to the beauty of the home, raise our standard of living, save time and energy but we wondered if it would add to our income.

We raise about 1,000 young chicks each year and keep, on an average, 400 laying hens. Our poultry houses are wired, one with two, the other with four 40 watt Mazda lights with cone shaped reflectors, 16 inches in diameter by 4 inches high. They were hung 6 feet from the floor and 10 feet apart. These consume 3 to 5 kilowatt hours of electrical energy per month.

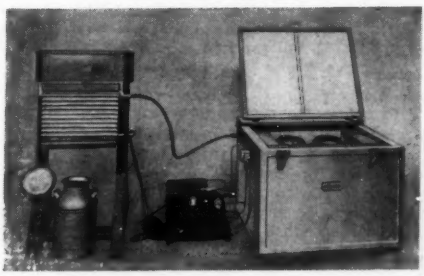
Lights Operated Automatically

My husband fixed a device to turn the lights on. This consists of a knife switch which when released by a cheap alarm clock is closed by a weight and lights the houses. This has never given us any trouble and seems to be a fair substitute for those selling on the market. The lights come on early in the morning so as to increase the hens' working day to about 12 to 13 hours.

After using lights a while we noticed a decided increase in egg production. The per cent varies according to the age of the layers, kind of feed consumed, etc. Our experience has been that the

LECTRIK-ICE MILK COOLERS

FOR DRY OR WET STORAGE

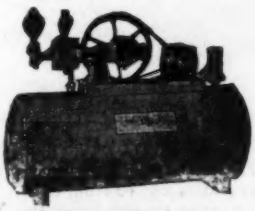


Uniflow milk coolers give you a quick and positive means of cooling milk through a proper aerator. Immediately reduces milk to 37° or desired temperature. Dry storage compartment maintains low temperature until milk is ready for delivery. Also made for wet storage. Uniflow milk coolers are made complete by us—you have no one else to look to for service. We are one of the few manufacturers doing this. Compact, guaranteed and fully tested in actual use, Uniflow Lectrik-Ice Milk Coolers pay dividends in avoiding milk spoilage. We also make a dry cooler for bottle storage. Send for free bulletin.

WATER SYSTEMS

for deep or shallow wells

Complete shallow well systems for as little as $43.75. Also deep well systems at very low prices. Write for information giving depth of well and number of gallons you require daily.



Shallow well systems priced as low as
$43.75

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Makers of Fine Precision Equipment Since 1921

Water Systems—Water Softeners—Water Filters—Beer Pumps
Beverage Coolers — Electric Refrigeration — Cellar Drainers

use of lights during the winter months when egg prices are high is a good practice, but that the results obtained by forcing breeding hens does not justify the use of lights in that case.

Electrical Feed Grinding

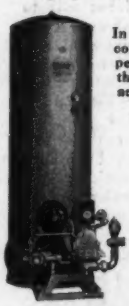
We grind our feed by electricity. By doing this we figure that we save about 2½ cents per pound. The feed usually consists of a mash having equal parts of corn, wheat, oats, meat scraps, and a little salt; a scratch grain made of 5 parts corn, 3 parts wheat and 2 parts oats and oyster shell plus a small amount of green feed.

We have two hard coal brooders and one electric brooder. The electric is rectangular, measures 5 by 7 feet and is 500 chick capacity. In selecting a brooder care must be taken to see that it is large enough to prevent crowding. While in the houses with the electric brooders the temperature is not so warm some distance away as in the coal-stove type, it is sufficiently warm under the brooder. The energy consumed varies according to the weather. During the month of May ours consumed 88 kilowatt hours. In warm weather the current may be turned off during the middle of the day.

We have two automatic waterers that save us about one-half hour per day to say nothing of the labor eliminated. These are inexpensive, cost very little to operate, and help increase egg production.

In conclusion, our experience has been that if electricity is properly used it will not only add to the happiness and efficiency of the farmer and his family but to the income as well.

Is your water supply satisfactory



In cooperation with your local power company or dealer we are offering personal service to help you select the DURO WATER SYSTEM exactly suited to your requirements.

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ON THE AIR

Conducted by Jerome J. Hervey

Lee Bennett Was College Star

LEE BENNETT, who sings with Jan Garber's orchestra, may be a crooning baritone to radio listeners but his friends call him a regular fellow.

Quiet and retiring, Lee's taste for music runs to melodic strains. He sings with a slow rhythm which is enjoyed by many on the air.

Athletic records at the University of Nebraska for 1931 show that Lee was one of the mainstays on the swimming team that sank so many mid-western opponents.

Portland Hoffa and Fred Allen whose comedy ranks ace high among thousands of listeners every Wednesday at 9:00 p. m., Eastern time, in "Town Hall Tonight."

Every summer while vacationing from his studies, Bennett went on the road with a Shakespearean stock company to earn his tuition. He played a total of 54 weeks in various cities. That was in the days when his dramatic ability ranked higher than his voice.

His vocal talents were first demonstrated at station KFAB, Lincoln, Neb., after he graduated from college. Jan Garber happened to hear him in 1932, and it wasn't long before Lee was chief vocalist with Garber's band. Besides singing Lee is adept at announcing and radio dramatics.

• • •

Rosemary Lane Sings with Waring

ROSEMARY LANE, who sings with Fred Waring's orchestra in one of radio's most popular programs, at 9:30 p.m., E.S.T., every Thursday evening over CBS stations, was born

in Indianola, Iowa. She was little more than six years old when she began to study music with a definite aim. Even at that early age she would practice six or eight hours a day.

She plans, after she has been on the air for an extended period, to go into the movies, and she has already had a number of offers to enter this field.

Her doggedness won rich reward for her in the form of health when it was indicated to her that she was in need of outdoor exercise during her girlhood in Iowa. With determination she and her sister practiced in the back yard and formed an athletic team that won prizes in competition in several sports. She's now an expert on the trapeze, and a good runner and swimmer.

• • •

Speakers Cover Land Use Topic

NOW that the National Resources Board has made its reports and recommendations on the use of the land resources of the country for the greatest good of the largest number, the Conservation Day programs of the National Farm and Home Hour, featured every Friday, are carrying talks developing individual phases of the land use program.

Among those who are playing an important part in the programs, both on the air and in planning the series, are Dr. L. C. Gray, land economist, and H. H. Bennett, director of the Federal Soil Erosion Service.

The use of the land is one of our most fundamental problems. Its surface must be protected from erosion, its fertility against the inroads of constant damage through cropping that does not produce the largest possible returns.

The radio programs are a valuable means for sending to every farmer a weekly message or two on the land use plans and the progress which is being made in administering them.

In addition to the highly interesting and important talks the Friday programs carry 20 or 30 minutes of music by the Homesteaders and an unusually entertaining dramatic sketch portraying the lives of Rangers in the national forests.

• • •

Singing Lady Begins Fifth Year

IREENE Wicker has begun her fifth year as the Singing Lady, whose week day children's programs are followed by millions of juvenile and adult listeners. Miss Wicker finished her fourth year in January by presenting her 1,000th Singing Lady broadcast. It was another in her series on famous living personalities, a dramatization of the life of Rachmaninoff, Russian pianist and composer.

Miss Wicker conceived the idea for her radio program while telling stories to her children at home. She is a talented actress who has played as many as 13 different characters in two consecutive radio programs, and a singer whose range covers four octaves. She writes her own script and portrays each of the characters. Her four year output is estimated at more than 4,000,000 words.

Entertainer of hundreds of thousands, Miss Wicker is only 28 years of age. She has been interested in dramatics since childhood and played her first professional role in stock at the age of 12. The University of Illinois and a theatre gave her her dramatic background.

Westco's cost no more than ordinary Electric Pumps.

RIGHT: 275 Gallons per hour Westco. Others up to 3000 G.P.H. Larger tanks available. All pumps guaranteed.

NO Belts Gears NO Valves Springs NO Pistons Leathers NO Hammering Pounding

Now, enjoy lively running water that's really trouble-free.

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Questions and Answers

Conducted by H. J. GALLAGHER

Heating Soil in Scratch Pen

Question: *I am thinking of heating the soil in the chicks' scratch pen, how can this be done? Is it practical?*

J. W. E.

Answer: It would be comparatively easy to heat the soil of a poultry scratching pen with soil heating equipment. Lead covered cable should prove very satisfactory. Each 120 feet of the cable would consume energy at the rate of 800 watts per hour of operation.

I do not have any information concerning this practice but would not consider it very practical.

Pulley and Belt Combination

Question: *Is it desirable to use a V pulley and V belt in combination with a flat pulley?*

T. T. A.

Answer: On any type of installation, where the V belt drive is applicable, it has many advantages over the flat belt drive. It is a common practice to use a V pulley on the motor and a flat pulley on the equipment to be operated, providing the diameter of the flat pulley is at least three times greater than the diameter of the V pulley. Some of the many advantages of the V belt drive are:

The centers of the two pulleys can be closer together than with any other type of belt.

There are no joints in the belt, which is highly desirable on small diameter high speed pulleys.

Minimum strain on the bearings because of the greater grip of the belt than with flat belts. V belts do not jump the pulley when starting under load and no belt tightner is needed.

The cost of equipping with V pulleys and V belts is usually much less than with flat pulleys and belts.

Wire Size Determination

Question: *Please assist me with the following wiring problem.*

Transformer 150' from furthest building. Size wire to barn for 5 H. P. motor? I have in mind B X L in the Cow barn; one circuit of 8 lights and one convenience outlet. In basement of horse barn; one circuit B X L with 7 lights and 2 or 3 plug outlets. On drive floors and hay mows: one circuit B X L 6 lights and 3 plug outlets. In milk house: 2 lights and duplex outlet,—will operate one 4 can cooler. Garage and shed: 5 lights and 3 plug outlets. Brooder and hen house; 4 lights and 4 plug outlets.

J. M. K.

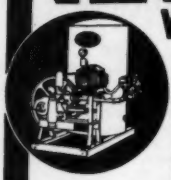
Answer: A sketch of the arrangement of your farm building with the distance one from the other and the location of the entrance service switch would have enabled me to give you more definite information as to proper size of wire to use. However, here are some general recommendations that may be of value. From the entrance service switch or main switch use three No. 6 B & S gauge wire where the 5 H. P. motor will be used. This will provide ample 220 Volt service for power and 110 Volt serviee for lighting. Wire to the other buildings with two No. 8 weatherproof wire for 110 Volt service.

At any future time a third wire could be added where 220 Volt service was desired. It is seldom advisable to use smaller than No. 8 wire between buildings even though the present load is within the safe limit of a smaller wire.

It is rather unusual for lead covered cable such as B X L to be used in horse and cow stables unless the stable is exceptionally wet. During the past few years there has been an increased tendency to wire all farm buildings with the non-metallic sheathed cable rather than with armored cable.

For the cow barn, eight lights and a convenience outlet on one 110 Volt circuit of No. 14 wire

NEW TROUBLE-PROOF HOOSIER WATER SYSTEMS



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INDEX AVAILABLE

The index for 1934 issues of "Electricity on the Farm" is still available. Readers may secure copies gratis upon request. Address: "Electricity on the Farm," 24 West 40th Street, New York, N. Y.

would be within the code ruling of safety. Ordinarily it is preferable in the larger out-buildings, as the horse barn, and cow barn, to divide the service into two or more circuits. All of the lighting circuits would be of No. 14 wire, each circuit protected by a 15 ampere fuse. The size of the wire of the power circuits would have to be in accordance with the energy they have to conduct and motors larger than ½ H. P. in size should be wired for 220 Volt service.

In the milk house one No. 14 wire circuit for lighting and a No. 12 wire circuit for the cooler.

In the garage and shed a No. 14 wire lighting circuit and a No. 12 wire power circuit, the same for the brooder and poultry house.

Remedying Radio Interference

Question: *I have a pump operated by an electric motor. Recently the motor is causing radio interference. How can this be remedied?*

H. L. J.

Answer: The first thing to do with radio interference is to check for faulty tubes.

Practically all electric water systems are powered by the repulsion-induction type of motor. Motors of this type may operate with the brushes continuously contacting the commutator, or the brushes may be lifted free from the commutator by a centrifugal device when the motor reaches running or induction speed. The brush riding motor is more apt to cause radio interference than the brush lifting motor. The interference may be caused by worn brushes, a rough commutator or poor contact between the brushes and commutator bars.

If the brushes are badly worn, they should be replaced with new ones. If the brushes stick in the brush container they should be dressed down with fine sandpaper so they slide freely in the container. Do not oil the brushes. Possibly the tension of the brush springs needs adjustment to keep the brushes contacting the commutator. Clean the commutator with a cloth, if the bars are rough or pitted smooth them with fine sandpaper while the motor is running. Do not use steel wool.

Ordinarily, the frame of the motor on a water system is attached to a metal base and is well grounded. Occasionally, a rubber pad or other insulating material may be between the frame of the motor and a ground. I have known of similar cases causing radio interference that was instantly corrected by attaching a wire from the frame of the motor to a water pipe and thus providing a good ground for the motor and the elimination of static electricity.

EVERY FARM SHOULD HAVE ONE
A good clipping machine for cows, horses, mules

Clipping acts like tonic to horses and mules. They work better, feel better, look better. Clipped cows give more milk, clean milk, better milk. The marvelous new Clipmaster is 78% more powerful and has a new EASY-GRIP handpiece with self-contained motor only two inches in diameter. Completely insulated—no ground wire required. Ball bearings. Perfect balance. The fastest clipping, coolest running, easiest to handle clipper ever made. And only $16.95. At your dealer's or send $1.00. Pay balance on arrival. Send for FREE catalog of Stewart electric and hand power Clipping and Shearing machines. Made and guaranteed by Chicago Flexible Shaft Co., 5524 Roosevelt Rd., Chicago, Ill.

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45 Years Making Quality Products

Who Makes It?

Here is equipment known to be practical and economical for farm use. The manufacturers listed are leaders in their respective lines and can take best possible care of your needs.

Write to them directly for any information or data you desire.

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For information about devices not included in the above list—use this handy coupon.

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Without cost to me, please have manufacturers send complete information on the following Electrically Operated Equipment which I am thinking of buying.

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What's New

Reviewed by T. E. HIENTON

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request. Address your requests to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Electric Water Pump

"Let the water do the running," although it may be merely a slogan, does signify the elimination of much hard, laborious drudgery spent in carrying water. The ever empty water bucket becomes a relic of the past, like the cradle and the flail, when an electric pump is installed on the farm.

Three sizes of a new electric water pump of integral-mounted design have been recently announced by a pioneer manufacturer of turbine-type pumps. Rated capacities of these pumps are 275,350 and 475 gallons per hour. Ball-bearing motors for 110-220 volt, 60-cycle alternating current are used to drive the pumps, a 1/3-horsepower size for that of largest capacity and ¼ for the other two. Motors may be obtained for odd frequency (other than 60-cycle) and for direct current. The motor-impeller shaft is fitted with a replaceable stainless steel sleeve where it enters the stuffing box of the pump. Bronze removable liners form the water channels and protect the pump casings in which the impeller rotates. Regular equipment includes a 3-gallon storage tank although the pump is available without any tank or with those of larger capacity.

Electric Bunch Washer

Washing vegetables for market always is a laborious task but particularly so when washed after being tied into bunches. A manufacturer of equipment for the market gardener has developed a machine in which eight separate brushes are combined into two units for washing bunch vegetables. A ¼-horsepower motor furnishes the power for this vegetable washer, which is 32 inches high, 13 inches wide, 27 inches long and weighs 130 pounds.

Precaution

"Madam," said the menagerie man, "please keep your children away from the bear cage."

"You don't think my children would hurt the bears, do you?" asked the woman.

"No, but this bear almost choked to death on a knife in the pocket of the last boy he ate."

Portable Milker

Labor problems in milking are usually solved by the use of a milking machine. Studies conducted in various states show that labor involved in milking by machine is one half or less than that required by hand milking.

A portable machine, which requires no installation except a few electric outlets behind the cows, has been offered by a manufacturer located in one of the leading dairy states. This machine is unique in that the milk is delivered directly into the strainer and shipping can, which are transported with the milker and power unit on a small 4-wheel truck. The milker milks two cows at one time or one cow alone if desired. When driven by an electric motor, a ¼-horsepower unit is required, which may be attached to a 110-volt circuit.

How Best Cover Titles Are Selected

To the Editor:

I would like to know, if you don't mind telling me, just how the titles for your cover contests are judged? Can you inform me in the magazine?

T. H. J.

Answer: Thank you for writing and giving us an opportunity of telling you how the prize winners are selected in our cover title contests.

Those who participate in the judging are the editors of the magazine and all the officers of the company whose names appear on the company letterhead. Frequently too, where there is any question about the final decision, the best 40 or 50 titles are submitted to one or more of the companies making the appliances illustrated on the cover. For example, if it has to do with lighting, the titles would be submitted to the sales managers of the lighting departments of General Electric and Westinghouse.

In making the selections, consideration is given to (1) The degree in which the title actually describes the picture; (2) The cleverness or brightness of the phrasing; and (3) if it is a rhyme which by the way is not essential, consideration is given to the correctness of the meter and the rhyme.

Naturally there are differences of opinion even among the judges. Frequently lively discussions ensue before an agreement is reached. Where there is a disagreement, the majority governs. In this we are following the practice of the Supreme Court of the United States where a vote of 5 to 4 is sufficient to invalidate an act of Congress.

When the Supreme Court Justices cannot agree upon the interpretation of the U. S. Constitution, it is inevitable, we suppose, that there should likewise be differences of opinion in judging the merits of our cover page titles where personal taste is bound to be such a large factor.

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BROODERS—The unexcelled "Lyon Improved Electric." Other practical well proven types. ALARMS—Burglar, Fire, Temperature, Power-Off, etc. HEATING EQUIPMENT—for incubators, home made brooders. Water heaters. FLY and INSECT KILLERS—Send for complete electrical catalog and brooding data. LYON ELECTRIC CO., San Diego, Calif. (Pioneers of Electric Brooding).

TITLE CONTEST

Awards for February

FEBRUARY COVER

First Prize — $20

"A modern mother — that neither smokes nor goes out."

MRS. SAMUEL FOSTER,
R.F.D. 1, Monmouth Junction, N. J.

Nine $2.00 Cash Prizes

"Safer, cleaner, fewer risks—
The Electric Hen makes Healthy Chicks!"
DOUGLAS B. CRUIKSHANK, R. 1, Milton, Ore.

"Warm and cozy, day and night,
The electric brooder keeps the temperature right."
FRANK R. ARCHDEKIN, R.F.D. 3, St. Joseph, Mo.

"Electric brooding is the safest way
Because it is nearest to nature's way."
ROBERT COLTON, Pittsfield, Vt.

"Success with chicks is surer when they're mothered by the 'electric hen'."
MRS. ANN BUCKBERY, Monotola, N. J.

"This modern lady on the cover
Is raising her brood with the electric hover."
MRS. IDA BEQUIST, R. 1, Cadillac, Mich.

"The little chicks have now arrived,
And found a hen electrified."
CARL A. CHENEY, R.F.D. 1, Falconer, N. Y.

"An electric 'start' at nominal cost
Brings 'profit' from chicks with little 'loss'."
JOAN S. HART, R.F.D. 6, New Brunswick, N. J.

"Electrically mothered profit producers."
EFFIE B. TURNEAURE, Hood River, Ore.

"Chickens in brooder with thermostat set,
The electric way with nothing to fret."
MABEL FIELDHACK, R.F.D. 1, Pewaukee, Wis.

APRIL CONTEST RULES

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash, and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles should be brief — the shorter the better — and short slogans will be given preferences over rhymes.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, before May 1st.

Winning names and titles will be announced in the June issue.

Send your title on the coupon or make out a similar form on a plain sheet of paper or government postcard.

My title for the April Front Cover picture of ELECTRICITY ON THE FARM is.....

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My name is..... R. F. D.....

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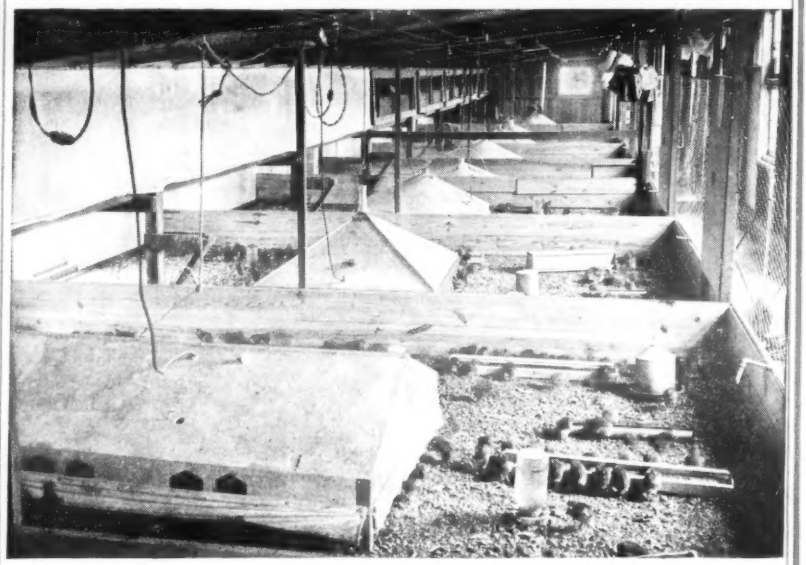
Small photo shows nine brooding houses on the farm of Glenn Brutus, and the larger view is the interior of a brooder house on the farm of Arba Brutus.



14
ELECTRIC BROODERS

. . . and more to come

Electric brooding will give you these same advantages. Ask your electrical dealer or write our Rural Service Department.

Electricity Gives Better Results with Less Work and Lower Costs

FOURTEEN electric brooders are in operation at the farms of the Brutus brothers, Arba and Glenn, Pine Village, Ind., where more than 100,000 Barred Rock chicks are produced each year.

Installation of additional electric brooding equipment is planned in the near future. These well-known poultrymen and hatcherymen changed over to electric brooding because it saves the work of carrying fuel and ashes, reduces fuel costs, and eliminates fire hazards. Besides, chicks have access to both warmth and cold, which results in quicker development, better feathering, healthier and huskier chicks.

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